Figure 1

100

ANTENNA MASTER CONTROLLER — 140

110
125   135   110

120 — radio1

110   110

120 — radio2

110   110

120 — radio3

110   110

120 — radioN

130

1   130

2   130

3   130

N   130

Switching State	Connection1	Connection2	Connection3	Connection$k$	...	Connection$N$
1	$1 \Leftrightarrow 1$	$2 \Leftrightarrow 2$	$3 \Leftrightarrow 3$	$k \Leftrightarrow k$	...	$N \Leftrightarrow N$
2	$1 \Leftrightarrow 2$	$2 \Leftrightarrow 3$	$3 \Leftrightarrow 4$	$k \Leftrightarrow k_N + 1$	...	$N \Leftrightarrow 1$
3	$1 \Leftrightarrow 3$	$2 \Leftrightarrow 4$	$3 \Leftrightarrow 5$	$k \Leftrightarrow k_N + 2$	...	$N \Leftrightarrow 2$
j	$1 \Leftrightarrow j$	$2 \Leftrightarrow j_N + 1$	$3 \Leftrightarrow j_N + 2$	$k \Leftrightarrow j_N + k_N - 1$	...	$N \Leftrightarrow j - 1$
$\vdots$	$\vdots$	$\vdots$	$\vdots$	$\vdots$	$\vdots$	$\vdots$
N	$1 \Leftrightarrow N$	$2 \Leftrightarrow 1$	$3 \Leftrightarrow 2$	$k \Leftrightarrow k - 1$	...	$N \Leftrightarrow (N-1)$

FIGURE 2

Switching State	Switch Positions				Connection1	Connection2	Connection3
1	R1	1	2	A1	$1 \Leftrightarrow 2$	$2 \Leftrightarrow 1$	$3 \Leftrightarrow 3$
	R2	2	1	A2			
	R3	3	3	A3			
2	R1	3	3	A1	$2 \Leftrightarrow 2$	$3 \Leftrightarrow 1$	$1 \Leftrightarrow 3$
	R2	1	3	A2			
	R3	1	1	A3			
3	R1	2	1	A1	$3 \Leftrightarrow 2$	$1 \Leftrightarrow 1$	$2 \Leftrightarrow 3$
	R2	3	2	A2			
	R3	2	2	A3			

FIGURE 7

300

Figure 3

Figure 4

400

120 Radio1 110 110 1 130

120 Radio2 110 110 2 130
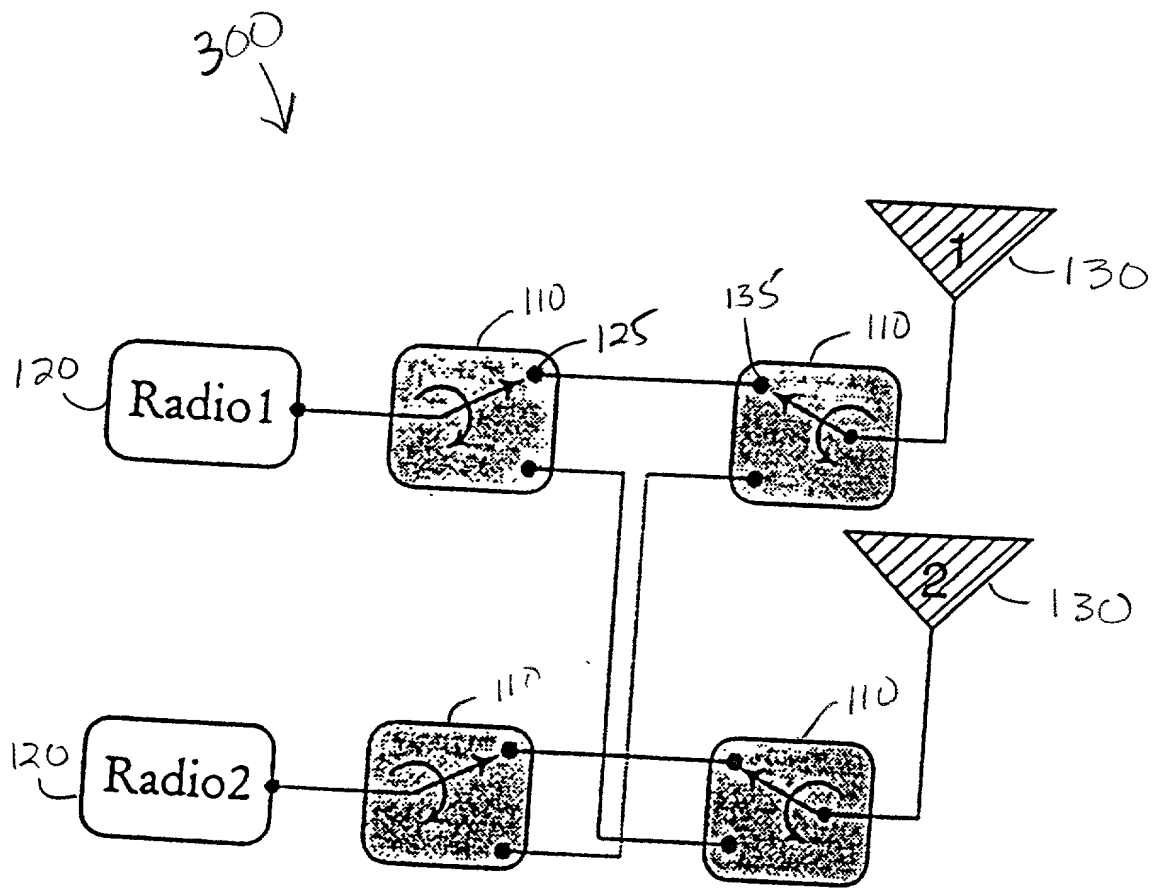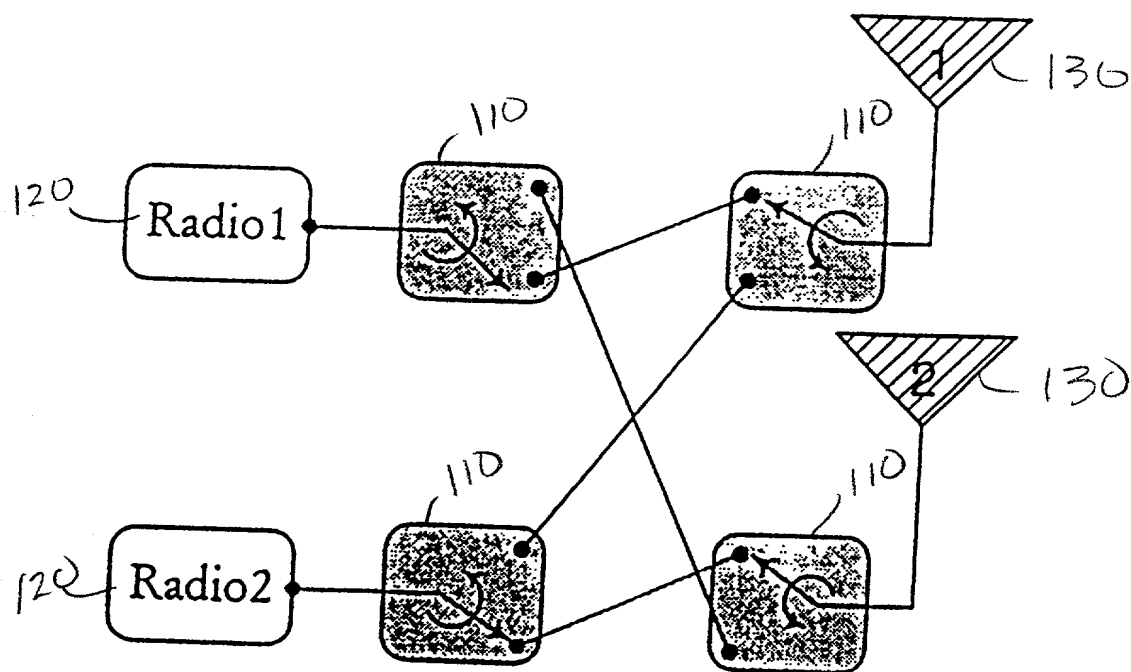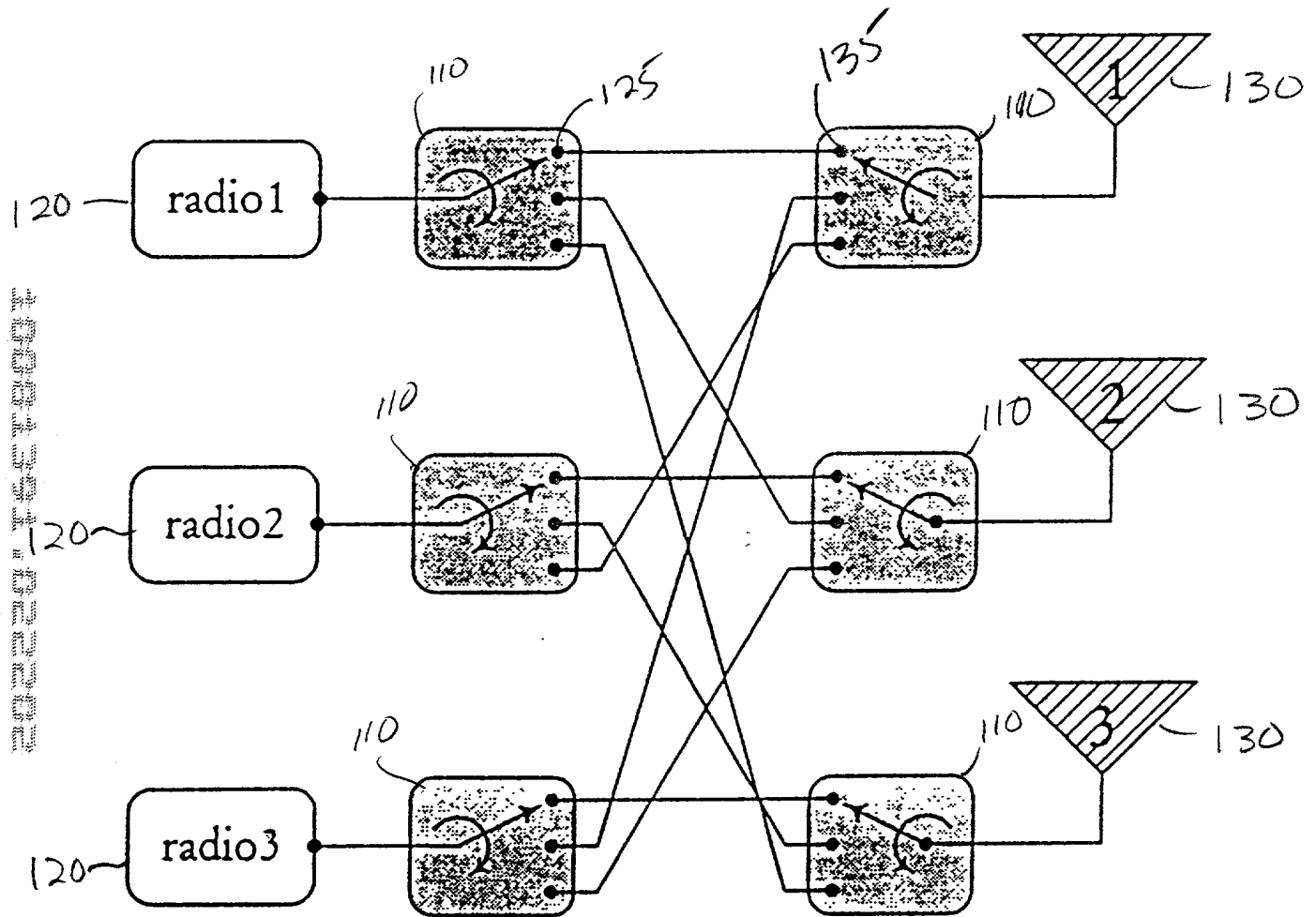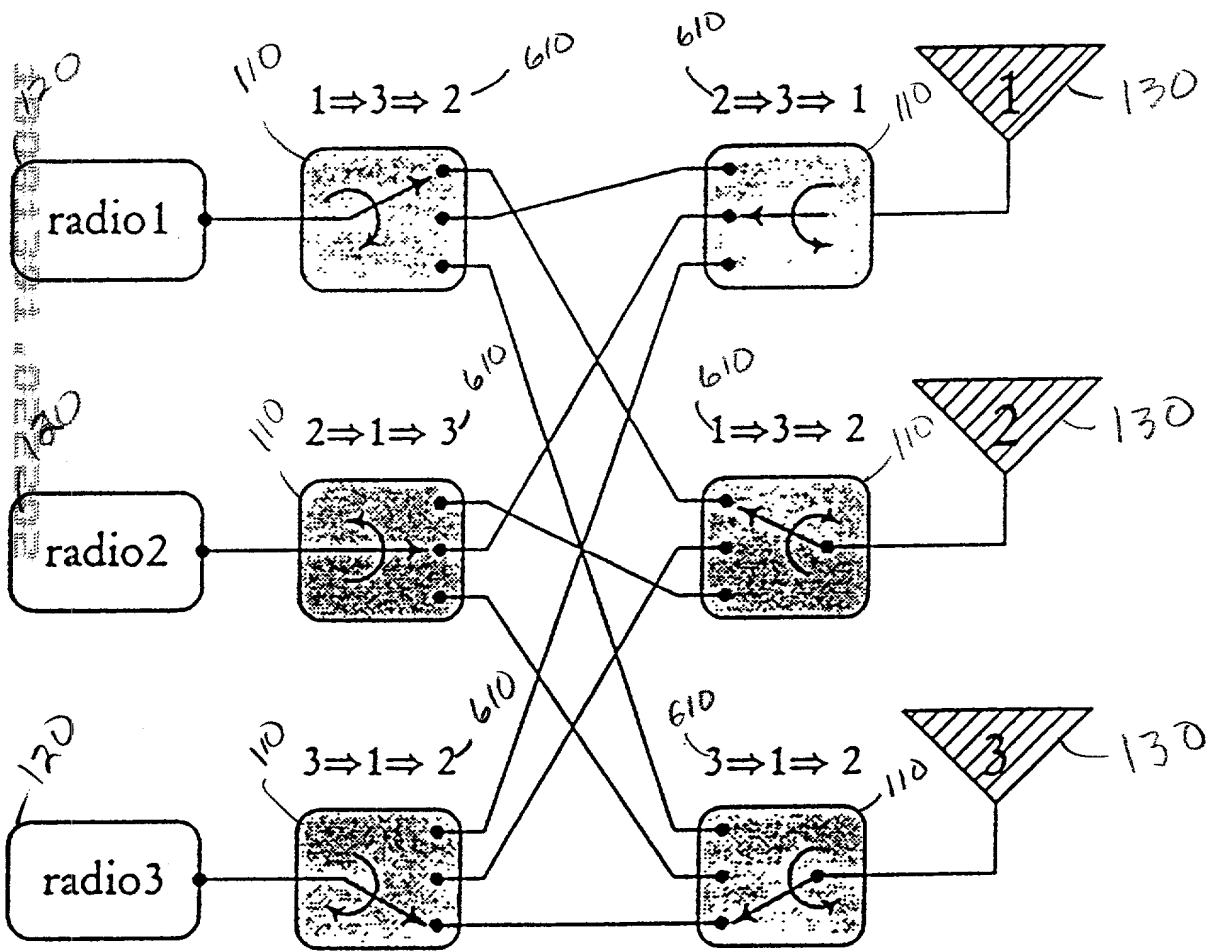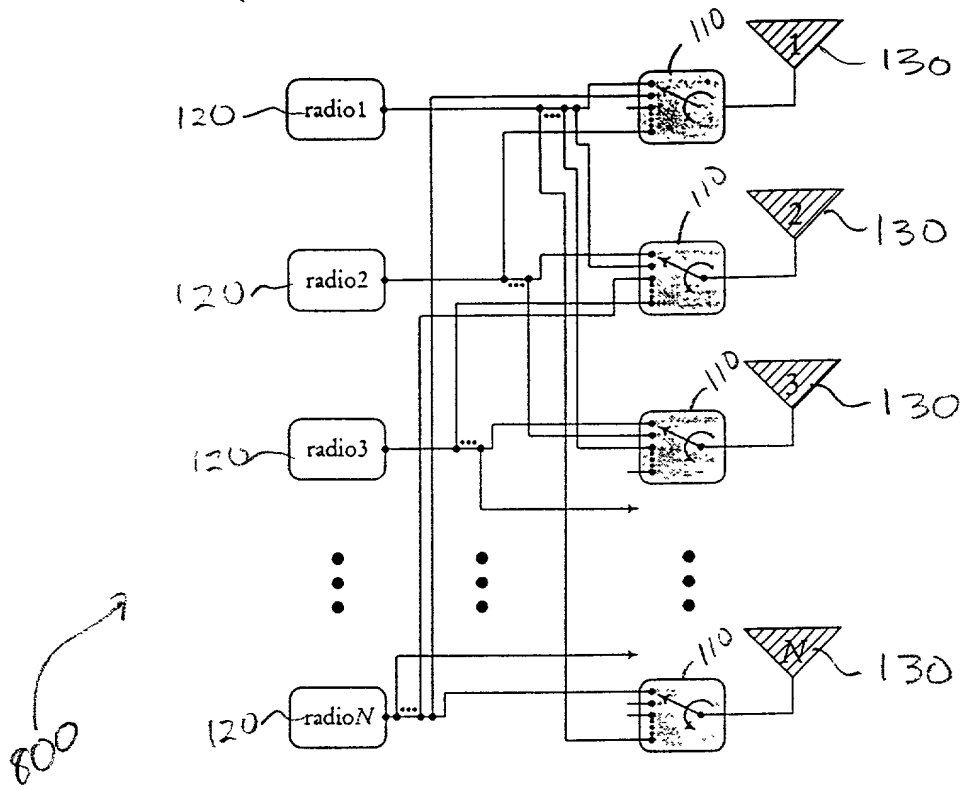
Figure 5
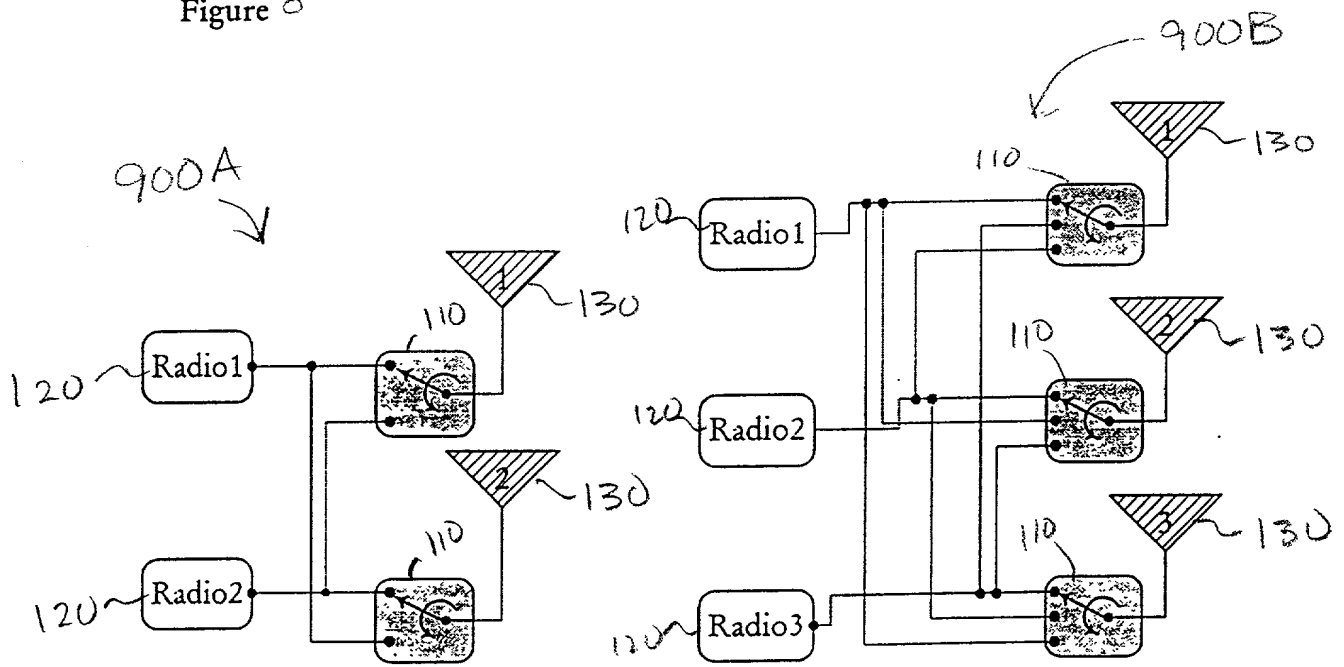
Figure 6

Figure 8

Figure 9A

Figure 9B

1000A

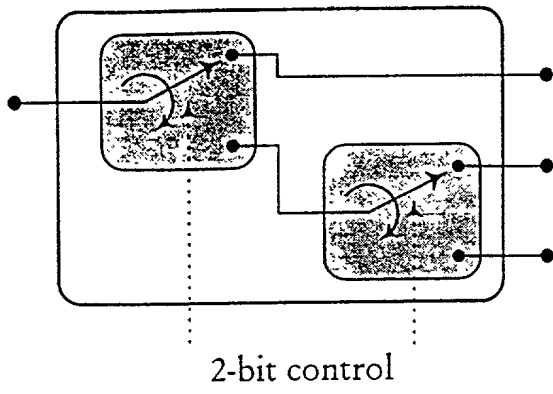
2-bit control

Figure 10A

1000B

2-bit control

Figure 10 B